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(HANDBOOK OF SOVIET STEELS AND ALLOYS)

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HANDBOOK OF SOVIET STEELS AND ALLOYS

## INTRODUCTION

Start  
SS, ES, Ni3, FeB  
This handbook presents a listing of Soviet "EI, EP, EYa, and EZh" steels and alloys and their chemical compositions as compiled from USSR scientific and technical publications. No attempt has been made to categorize or classify these materials under any other nomenclature.

The steels and alloys listed here do not include all the known Soviet steels and alloys, but do represent a good cross section of materials used in various branches of Soviet industry.

A few notes are necessary for the reader to gain full benefit of the contents of this handbook. The symbol "EI" (transliterated from Russian and representing the Russian words "Elektrostal'," a steel plant near Moscow) and "Issledovatel'skiy" (experimental), followed by a serial number, in the past has been called a Factory designation for experimental steels produced by the Elektrostal' Plant, but the present use of this symbol is not so specific, as indicated by the appearance of the "EP, EYa, and EZh" steels and alloys. Many of the "EP" steels were originally developed as high-quality welding wire where the "P" represented the Russian word "provoloka" (wire). Many of these steels are now produced for purposes other than welding wire, but still retain their "EP" designation. The "EYa" steels are chromium-nickel, austenitic stainless steels comparable to the AISI 300 series while the "EZh" steels are chromium, martensitic and ferritic stainless steels comparable to the AISI 400 series.

In addition to the so-called factory designation, Soviet steels and alloys are also identified by a designation which, in most instances, is an abbreviated nominal composition-designation system. For example, steel EI-530 has an alloy designation Kh18N28M3D3. One familiar with these designations would expect this steel to have a nominal composition of roughly 0.1% C, 17-19% Cr, 27-29% Ni, 2.5-3.5% Mo and 2.5-3.5% Cu. A quick check shows that this steel contains 0.12% C, 17.5-19.5% Cr, 27-29% Ni, 2.5-3.5% Mo and 3.5-4.5% Cu. With the exception of copper, the composition of this steel could be estimated quite accurately. And as stated above, this designation is an abbreviated way of indicating a nominal composition and leaves much to be desired as it does not indicate all the elements contained in the steel or alloy (primarily--manganese and silicon). One must be flexible in his approach when working with this particular designation of steels and alloys and not take anything for granted inasmuch as it is far from being standardized.

The specification column which lists the latest known standard serial numbers for these steels and alloys follows the factory designation and alloy designation columns. This system of standards is quite similar to the ASTM standards. Many of these serial numbers are

GOST (All-Union State Standard) numbers which were updated in 1961 (GOST 5632-61), while some of the older ones carry other standards (TU, MPTU, ChMTU, etc.).

→ No special effort has been made to fill in the "nearest equivalent" column. Those listed have been mentioned in Soviet literature or U. S. technical publications concerning Soviet materials, or were determined by random comparison with U. S. steels and alloys (on the basis of chemical composition).

Below is a table of transliterated Russian letters and the chemical element which they symbolize. In passing it must be noted that the Soviets do not use the letter "A" to represent any chemical element. However, it is found in many alloy designations as a suffix letter to indicate a high-quality alloy steel (or has so been used in the past). The letter "R" represents boron in alloy designations; however, as a prefix, e. g., R18K5F2 (EI-940), it indicates that the material is a high-speed tool steel.

Table of transliterated Russian letters and the chemical element which they represent.

<u>Letter</u>	<u>Element</u>
B	Niobium
D	Copper
F	Vanadium
G	Manganese
K	Cobalt
Kh	Chromium
M	Molybdenum
N	Nickel
P	Phosphorus
R	Boron
S	Silicon
T	Titanium
Ts	Zirconium
V	Tungsten
Yu	Aluminum
Z	Sulfur
Zh	Iron (in nonferrous alloys)

SOVIET "EL" STEELS AND ALLOYS

Chemical Composition, percent (maximum unless given as range)																	
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Al	Cu	B	Co	Others
3	35KhM		AISI 4337	0.32-0.38	0.30-0.60	0.17-0.37	0.05	0.05	0.80-1.20	1.40-1.80	0.25-0.40						
5	25KhN4			0.25-0.35	0.30-0.60	0.17-0.37		0.040	0.80-1.10	4.00-4.50							
6				0.25-0.35	0.25-0.60	0.40	0.030	0.030	0.70-1.10	3.30-4.60							
10	25Kh2MFA 25KhMFA	GOST 4543-61		0.22-0.29	0.40-0.70	0.17-0.37	0.035	0.030	1.50-1.80	0.40	0.20-0.30			0.15-0.30		0.20	
10	35KhMFA	GOST 4543-48	ASTM A-193 -53aT(B-16)	0.30-0.38	0.40-0.70	0.17-0.37	0.035	0.030	1.00-1.30	0.40	0.20-0.40			0.10-0.20			
14	20KhN4FA	GOST 4543-57		0.17-0.24	0.25-0.55	0.17-0.37	0.035	0.030	0.70-1.10	3.75-4.25				0.15-0.30		0.25	
16	18KhNVA 18Kh4NVA	GOST 4543-57		0.14-0.21	0.25-0.55	0.17-0.37	0.035	0.030	1.35-1.65	4.00-4.50		0.80-1.20					
18	25KhNVA 25Kh4NVA	GOST 4543-57		0.21-0.28	0.25-0.55	0.17-0.37	0.035	0.030	1.35-1.65	4.00-4.50		0.80-1.20		0.25			
25	Kh8N36	GOST 4543-51	ELinvar	0.40	0.30-0.60	0.50	0.030	0.030	7.3-8.3	36.5-38.5							
36				0.2	(nominal composition)				12	35-37							

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
40		MPU 2362-49	AISI 316	0.10	2.0	1.0	0.035	0.020	16.0- 19.0	10.0- 14.0	2.0- 3.0								
41				0.16- 0.24	0.25- 0.60				2.4- 3.3	0.50	0.35- 0.55	0.30- 0.50		0.60- 0.85					
42				0.25					0.2	47.0- 49.0							Fe-bal.		
59	Kh30		AISI 446	0.15	1.50	0.50	0.035	0.030	26.0- 30.0	0.60									
60	Kh13Yu4 Kh13Yu5 Kh15Yu4 Kh15Yu5	GOST 9323-59	AISI 405	0.15	0.7	1.0	0.035	0.030	12.0- 15.0	0.60					3.5- 5.5				
66			7XCR?																
69	Kh14N14V 4Kh14N14V2M	GOST 5632-51	AMS 5700	0.40- 0.50	0.7	0.8	0.030	0.030	13.0- 15.0	13.0- 15.0	0.25- 0.40	2.00 2.75							
69	Kh14N14VS	GOST 5632-51	AMS 5700	0.40- 0.50	0.7	2.75- 3.25	0.030	0.030	13-15	13-15	0.25- 0.40	1.75- 2.25							

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
72	Kh12N7S, Kh13N7S2 3Kh13N7S2	GOST 5632-51	AMS 5705A	0.25- 0.37	0.7	2.0- 3.0	0.035	0.030	11.5- 14.0	6.0- 7.5									
75	35KhGS	GOST 4543-48		0.30- 0.40	0.80- 1.10	1.10- 1.40	0.040	0.040	1.10- 1.40	0.40									
83	12Kh2N4A	GOST 4543-57	AISI E3316	0.15	0.30- 0.60	0.17- 0.37	0.025	0.025	1.25- 1.65	3.30- 3.70					0.20				
84	40KhNMA	GOST 4543-57	AISI 4340	0.37- 0.44	0.50- 0.80	0.15- 0.30	0.025	0.025	0.60- 0.90	1.25- 1.65	0.15- 0.25				0.20				
85	Kh8SM, Kh8S2M	GOST 5632-51		0.35- 0.50	0.3- 0.7	2.0- 3.0			8.0- 9.5	0.6	0.2- 0.4								
88	8SM	OST 14958- 39		0.8- 0.9	0.20- 0.40	0.80- 1.10	0.030	0.030			0.30- 0.50	1.00- 1.40							

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
94		ChMTU 2913-51	Hadfield Ni-Mn steel	0.70-0.90	13.0-15.0	0.70	0.100	0.030	0.50	2.75-3.75									
95		ChMTU 2913-51	AISI 302B	0.20-0.30	0.40-0.70	0.030	0.020	17.0-19.0	8.0-10.0										
96	03Kh13																		
100	Kh13M4G9 2Kh13M4G9	GOST 5632-61	AISI 202	0.15-0.30	8.0-10.0	0.80	0.060	0.030	12.0-14.0	3.75-5.0									
103		TU 693		0.70-0.85	0.20-0.40	0.30	0.030	0.030	3.20-3.80	0.25									
107	Kh10SN, Kh10S2M, 30Kh10S4A	GOST 5632-51	Croloy 9	0.35-0.45	0.30-0.70	1.90-2.60	0.030	0.025	9.0-10.5	0.50	0.70-0.90								



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
114	18-8-NV			0.14-0.21	0.25-0.55	0.15-0.30	0.05	0.05	1.35-1.65	4.00-4.50		0.80-1.20						
116				0.75-0.85		1.50-1.80			9.50-10.80		(nominal composition)			1.00-1.35				
119	(stainless)																	
121				0.32-0.42	0.20-0.40	0.35	0.030	0.030	4.75-5.75			4.0-5.0					0.4-0.5	
122				0.40		1.91			15.26 (actual analysis)	14.9			0.38					Nb 2.12
123		TU 635		0.15-0.25	0.40-0.80	1.7-2.3	0.030	0.030	14.0-16.0	12.0-14.0		1.8-2.2	0.5-1.5					
126				0.41	0.50	0.65			13.39 (actual analysis)	36.85 (actual analysis)		2.4						

Chemical Composition, percent (maximum unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
132	A199-58T A199-58T	GOST 5632-51	AISI 317T	0.12	2.0	0.8	0.035	0.030	16.0-19.0	11.0-14.0	3.0-4.0								
142	70S2Kh1	GOST 2092-53	AISI 9260	0.65-0.75	0.40-0.60	0.15-0.30	0.035	0.030	0.20-0.40	0.30									
150	Kh3M		ASTM A199-58T (T-2)	0.12-0.18	0.2-0.5	0.5			2.5-3.0	0.6	0.3-0.4			0.2-0.3					
152	Kh6M, 12Kh6M		ASTM A199-58T (T-5)	0.15	0.50	0.50	0.030	0.030	5.0-6.5	0.6	0.45-0.60			0.1-0.25					
160	4Kh8V2	GOST 5950-51		0.35-0.45	0.20-0.40	0.35	0.030	0.030	7.00-9.00	0.25		2.00-3.00							
161		MPTU 2594-60	AISI N16	0.55-0.65	0.30-0.60	0.30-0.60	0.030	0.030	6.50-7.50	0.30	0.25-0.35	6.50-7.50		0.30					

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
171	Kh17M13GSA	GOST 5632-51	AISI 316T	0.12	2.0	0.8	0.035	0.030	16.0-19.0	11.0-14.0	2.0-3.0		0.3-0.6					
172	Kh12EN			1.0-1.5	0.40	0.35	0.040	0.030	11.0-13.0	0.9-1.6				2.0-2.6				
173				0.90-1.00	0.40	0.35	0.040	0.035	8.0-10.0	0.6		2.0-3.0		1.0-1.6				
179	30XhGS, 30XhGSA	GOST 4543-57		0.25-0.35	0.80-1.10	0.83-1.20	0.040	0.040	0.80-1.10	0.25						0.20		
181	Kh25	GOST 5632-51	AISI 446	0.20	0.80	1.00	0.035	0.030	23.0-27.0	0.60								
183	Kh19NM		AISI 316	0.14	2.0	0.80	0.035	0.030	17.0-20.0	8.0-10.0	2.5-3.0							
184	R4			0.80-1.00	0.40	0.50	0.040	0.035	7.0-9.0	0.35		3.5-4.8		1.0-1.5				
185	15NM	GOST 4543-48	AISI 4615	0.10-0.18	0.40-0.70	0.17-0.37	0.040	0.040	0.30	1.50-2.00	0.20-0.30					0.30		

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
100		TU 193	AISI S-1	0.70-0.85	0.20-0.40	0.40-0.70	0.030	0.030	1.10-1.40	0.25		2.00-2.70							
105	15MnCu 20MnCu	GOST 4243-57		0.17-0.23	0.80-1.10	0.90-1.20	0.035	0.035	0.80-1.10	0.25						0.20			
203	Kh14G14V			0.35-0.45	13.0-15.0	1.40-1.80	0.030	0.030	13.0-15.0			2.0-2.8							
211	Kh20Ni4S, Kh20Ni14S2, 1Kh20Ni4S2	GOST 5632-61		0.20	1.50	2.0-3.0	0.035	0.030	19.0-22.0	12.0-15.0									

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
229	Kn18, 9Kn18	GOST 5632-51	AISI 440C	0.90-1.00	0.70	0.80	0.035	0.030	17.0-19.0	0.60									
230	Kn14HL4SV2M		AMS 5700				Composition same as for EI-693												
231	Kn14	GOST 5632-51	AISI 420	0.15	0.70	0.60	0.030	0.030	13.0-15.0	0.60									
243				1.0-1.2	0.40	0.35	0.040	0.030	10.0-13.0	0.9-1.6	3.0-4.0			2.0-2.6					
244				1.0-1.15	0.40	0.35	0.040	0.030	10.0-12.0	0.9-1.6				0.3-0.6	2.0-2.6				
256	GL3, GL3L	GOST 2176-57	Radfield steel	0.9-1.3	11.5-14.5	0.5-1.0	0.12	0.05	0.5	0.5									
257	1Kn14HL4V2M	GOST 5632-51		0.15	0.7	0.8	0.035	0.030	13.0-15.0	13.0-15.0	0.45-0.60	2.0-2.75							
257E	1Kn14HL4V2MT	GOST 5632-51		0.15	0.7	0.8	0.035	0.030	13.0-15.0	13.0-15.0	0.45-0.60	2.0-2.75	0.4-0.6						
258			AISI 14	0.95-1.05	0.95-1.15	0.25-0.40	0.03	0.03	0.95-1.15										

Chemical Composition, Percent (maximum unless Given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
260				0.90-1.05	0.40	0.35	0.040	0.030	4.0-5.0	0.40	3.2-4.0			2.0-2.6					
261	R-953N	GOST 5632-51	AISI 446	0.35	0.7	2.5-3.5	0.035	0.030	23.0-27.0	0.7-1.3									
262	R-9	GOST 5952-51		0.85-0.95	0.40	0.40	0.030	0.030	3.8-4.4	0.4	0.3	8.50-10.00		2.00-2.60					
263	Ru1782	GOST 5632-61	AISI 431	0.11-0.17	0.80	0.80	0.030	0.025	16.0-18.0	1.5-2.5									
269	55G5120	CHMTU 2913-51		0.50-0.60	4.0-5.5	0.60	0.050	0.030	0.25	18.5-21.5									
270		MTU 2493-50		0.37-0.47	0.50-0.80	1.60-2.00	0.040	0.040	0.25	0.30									
273		CHMTU 254		0.35-0.42	0.80-1.10	0.17-0.37	0.030	0.030	1.20-1.50	0.50									
274	15Kh262T	CHMTU 254		0.13-0.18	1.40-1.70	0.17-0.37	0.030	0.030	1.50-1.80	0.50			0.05-0.12						
275	40Kh26M	CHMTU 254		0.35-0.42	0.70-1.10	0.17-0.37	0.030	0.030	1.50-1.80	0.50	0.25-0.40								

Chemical Composition, percent (maximum unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
275				1.00-1.15	0.40	0.40	0.040	0.030	3.80-4.40	0.35	2.30-2.90	2.20-2.90		2.20-2.80					
277				1.10-1.25	0.40	0.35	0.040	0.030	3.80-4.60	0.40	2.30-2.90			2.80-3.30					
278	N35RuV			0.70-0.80	2.0-3.0	0.60	0.04	0.030	7.0-9.0	33.0-35.0		3.0-4.0							
283	Ru25M20S2	GOST 5632-61	AMS 5652A AISI 310B	0.20	1.5	2.0-3.0	0.035	0.020	23.0-27.0	18.0-21.0									
284				0.90-1.10	0.40	0.35	0.040	0.030	4.00-5.00	0.40	3.70-4.50	3.00-3.70		2.00-2.60					
288	35RhGS	GOST 4543-48							(Same as EI-75)										
289	65SV2A, 65SV2A	GOST 2052-53		0.60-0.70	0.70-1.00	1.50-2.00	0.035	0.030	0.030	0.40		0.80-1.20							
290				0.90-1.05	0.40	0.40	0.040	0.035	3.60-4.30	0.35	2.60-3.30	2.60-3.30		1.50-2.00					
292	OM25Ru5	GOST 5632-61		0.06	0.70	1.20	0.035	0.030	23.00-27.00	0.60			0.20		4.50-6.50				

El No.	Alloy Designation	Specification	Fastest Equivalent	Chemical Composition, percent (maximum unless given as range)											
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Th	V	Al
295				1.50-1.65	0.15-0.40	0.70-0.95	0.03	0.25	0.03	0.5					
296															
297															
298			AISI 12	0.80-0.95	0.10	0.35	0.040	0.030	3.70-4.50	0.40	4.0-4.5	5.0-6.0		2.0-2.6	
299															
300															
301		ASTM 2913-51	AISI 310B	0.20	0.20-0.70	1.2-2.0	0.035	0.030	24.0-27.0	18.0-21.0					
302				0.07-0.12	0.80	1.4-2.0	0.035	0.030	8.0-11.0	0.30					0.40-0.70
303															
304															
305															
306															
307															
308															
309															
310	K202516W K118165W	ASTM 254		0.12	4-6	(Estimated composition)			19-21	5-7	0.2-0.4	0.8-1.3			
311															
312	K118166	ASTM 254		0.35-0.45	3.00-5.00	1.40-2.00	0.040	0.030	17.00-20.00	5.00-7.00					
313				0.90-1.00	0.10	0.35	0.040	0.030	10.0-12.0	0.50-1.20				2.40-2.80	



El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
314				0.78-0.88	0.40	0.35	0.040	0.030	7.90-9.10	0.90-1.20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

IN. No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
300	1225-20			0.25	2.0	1.0	0.03	0.03	24.0-27.0	19.0-22.0									
300		CHTU 217		0.25	1.2-1.8	0.6	0.03	0.03	20-25	bal.						0.06		Fe-1.7 Co-0.3-0.8	
300				1.40-1.50	0.15-0.40	0.70-0.95	0.03	0.025	0.03	0.2		*	* (*0.1-0.6 total)	*					
300				0.42			(Actual analysis)		15	7	0.8			1.7				N-7%	
300	1225-20, 1225-20	GOST 5632-61		0.12	0.70	1.20	0.03	0.03	23.03-27.00	0.60			0.50			4.50-6.50			
300	1225-20, 1225-20	GOST 5632-61		0.12	0.70	1.20	0.03	0.03	16.00-19.00	0.60			0.50			4.00-6.00			
300				0.17-0.8	0.40	0.40	0.03	0.03	4.0-4.6	0.35	0.3	3.5-19.0		1.3-1.7					

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
349	IN28 (UNS-27)	ASTM 5632-61	AISI 446	0.15	0.80	1.00	0.035	0.025	27.0-30.0	0.60									
353	40NiCuNb			0.35-0.45	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.50-0.80							
355	40NiCuNb			0.35-0.45	0.56-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90	0.15-0.25								
359	IN65	ASTM 5950-51		0.95-1.10	0.80-1.20	0.50-1.00	0.030	0.030	1.40-1.80	0.25									
365				1.30-1.45	0.30-0.50	1.0-1.25	0.030	0.025	0.03	0.20		*	*						
												(*0.2-0.4 total)							
369	15NiCuNb	ASTM 320-60		0.12-0.19	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.50-0.80							
369	15NiCuNb	ASTM 320-60		0.12-0.19	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90	0.15-0.25								
379	30NiCuNb			0.24-0.34	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.50-0.80							

PT No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
370	3006ALM			0.24- 0.34	0.65- 0.95	0.17- 0.37	0.03	0.03	0.75- 1.05	0.60- 0.90	0.15- 0.25								
370	4041G2M						0.08- 0.15	0.15- 0.25			0.7- 0.9								
380				0.80- 0.95	0.40	0.35	0.040	0.035	7.0- 9.0	0.6- 0.9		2.0- 2.5		2.4- 2.8					
381				0.82- 0.92	0.40	0.35	0.040	0.035	6.0- 7.0	0.40		3.5- 4.5		2.8- 3.2					
382				0.80- 0.90	0.40	0.35	0.040	0.035	4.5- 5.5	0.40		4.0- 5.0		1.8- 2.3					
383				0.27- 0.37	0.20- 0.40	0.35	0.035	0.035	3.0- 4.0	0.50				1.80- 2.40					
386				0.85 0.95	0.40	0.30	0.040	0.030	4.0- 5.0	0.35		4.0- 5.0		1.5- 2.0	0.50- 0.80				
388	KH15G7M7MF HKH15G7M7MF	GOST 5632-61		0.38- 0.47	6.0- 8.0	0.9- 1.4	0.040	0.020	14.0- 16.0	6.0- 8.0	0.65- 0.95			1.5- 1.9					

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	V	Ti	V
394				0.50-0.60	0.20-0.35	0.15-0.30	0.030	0.030	0.40-0.60	0.30		0.15-0.35		
395	Al-5Ti-3B	GOST	Timken	0.12	1.0-2.0	0.50-1.00	0.030	0.030	15.0-17.5	24.0-27.0	5.5-7.0			24.0-26.0
	Al-5Ti-3B													
397	Al-5Ti-3B													
398	Al-5Ti-3B	GOST 5632-51		0.10	2.0	1.0	0.030	0.030	17.0-20.0	9.0-13.0				17.0-20.0
400	Al-5Ti-3B	ChMTU 5216-55		0.07	1.5	1.5	0.030	0.030	16.0-19.0	11.0-14.0	2.0-3.0			
401	Al-5Ti-3B	MTU 2362-49		0.10	2.0	1.0	0.030	0.020	16.0-19.0	10.0-14.0	2.0-3.0			
402	Al-5Ti-3B	GOST 5632-61		0.08	1.00-2.00	0.80	0.030	0.020	17.0-19.0	11.0-13.0				17.0-19.0
402M				0.12					16.0-18.0	9.5-11.0	0.9-1.2			17.0-19.0
403				0.12	0.90-1.50	0.70-1.20	0.030	0.020	16.0-19.0	14.0-17.0	2.0-2.6			17.0-19.0

Chemical Composition, percent (maximum unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
404	161613 161614	GOST 5632-61		0.07-0.12	0.70	1.2-2.0	0.030	0.025	11.5-14.0	0.5					1.0-1.8				
405	161613123			0.12	0.50	0.50-0.80	0.030	0.025	15.0-17.0	12.5-14.5	2.0-2.5								Nb-0.9-1.3
406	161613123 161515123			0.12	0.50	0.80-1.00	0.030	0.030	15.0-17.0	12.5-14.5	1.5-2.0								Nb-0.9-1.3
409	(stainless)																		
413		CHMTU 5216-55		0.12	5.00-6.00	1.80-2.60	0.05	0.03	18.00-21.00	6.50-8.00									
414				0.27-0.35	5.00-6.50	1.80-2.60	0.050	0.030	18.00-21.00	6.50-8.00									
415	20Kh3MP 20Kh3MPV 20Kh3MPV	MPMTU 2362-49		0.16-0.24	0.25-0.60	0.40	0.035	0.030	2.4-3.3	0.5	0.35-0.55	0.30-0.50		0.60-0.85					
416	VK-36			0.35-0.45					18-21	18-22		4.5						45	Fe-1-3%
417	Kh23N18	GOST 5632-51	AISI 310	0.2	2.00	1.00	0.035	0.030	22.0-25.0	17.0-20.0									
418	KhN75, Kh15N75			0.12	1.0	0.8			13.0-15.0	275									Fe-9.0%

Chemical Composition, percent (maximum unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S (same as El 435)	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
421			Nimonic 75																
422	KhN80T Kh20Ni80T3	GOST 5632-51	Nimonic 80	0.08	0.5	1.0	0.020	0.015	19.0-23.0	bal.			2.0-2.9		0.4-1.1	0.2			Fe-2.5%
423				0.6-0.7	8.0-9.0	0.2-0.4	0.030	0.030	2.5-3.2	8.0-9.0									
424				0.10-0.16	0.40-0.90	0.40-0.90	0.030	0.030	14.0-16.0	28.0-32.0			1.5-2.0						
425	Kh65Yu	GOST 5632-61		0.15	0.50	1.20-1.80	0.030	0.025	5.50-7.70	0.30			0.20		0.70-1.10				
429		ChMTU 5212-55		0.15-0.25	6.0-7.0	0.5	0.035	0.030	11.0-15.0	10.0-13.0									
431				0.25-0.35	0.20-0.40	0.35	0.030	0.030	2.20-2.70	0.25		4.0-5.0		0.50-0.80					
432	KhN/ML3M3T	GOST 5632-61		0.10	1.00-2.00	0.80	0.035	0.020	16.0-18.0	12.0-14.0	3.0-4.0		0.30-0.60						
434	KhN10K			0.32-0.42	0.50-1.20	0.50-1.20	0.035	0.030	12.0-14.0	11.5-13.5	1.8-2.4	2.5-3.5	0.06-0.15	0.05-0.10				9.0-11.0	Nb-1.0-1.5
435	Kh20Ni80T, KhN75T KhN78, KhN78T	GOST 5632-61	Nimonic 75	0.12	0.70	0.80	0.030	0.015	19.0-22.0	bal.			0.15-0.35						Fe-6%

Chemical Composition, percent (nominal unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
427			Nimonic 80					(Same as EI 422)											
430	Ru177Ni	GOST 5632-61		0.06	0.4	0.6	0.015	0.007	19.0-22.0	bal.			2.3-2.7		0.55-0.95				Fe-1.0% Ce-0.01%
431	Ru177NiR	GOST 5632-61		0.06	0.40	0.60	0.015	0.007	19.0-22.0	bal.			2.3-2.7		0.55-0.95		0.01	Ce 0.01	Fe-4% Fe-0.01
439	Ru25T	GOST 5632-61	AISI 446	0.15	0.80	1.0	0.035	0.025	24-27	0.6			5x% up to 0.8						
440	Ru470	GOST 5632-61	Nichrome	0.07	0.5	0.8	0.02	0.02	29-31	bal.					0.15				Fe-5.0
444																			
445	Ru65744Ru							(nominal composition)	20	bal. 4			2.5		0.7				
445B	Ru18NG7V545TeRuR			0.08	0.5	0.6	0.015	0.010	17-20	bal.	4-5	4-5	2.5		1-1.5		0.01		Fe-4 Ce-0.01
446				0.08	0.5	0.6	0.015	0.01	17.0-20.0			4.0-5.0	2.2-2.8	4.0-5.0	1.0-1.5		0.01		Fe-4.0% Ce-0.01
448	Ru18Ni12CoT Ru18Ni12CoT Ru17Ni12CoT	GOST 5632-61		0.10	1-2	0.8	0.035	0.020	16-18	12-14	1.8-		0.3-0.6						



Chemical Composition, Percent (maximum unless given as range)																			
BT No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
452	K18NiO(1)			0.12	1-2	0.80	0.035	0.020	17-19	9-11									Se or Te 0.18- 0.35
453	K20B			0.12	0.4- 0.7	0.4- 0.7	0.035	0.030	2.1- 2.6	0.30	0.8- 1.0								W-1.3
457	K20R (similar to K1-57)			0.09	0.54	0.46	0.024	0.012	25.05 (actual analysis)				0.30						
459				0.12	5.5- 7.0	1.0	0.055	0.030	14.0- 16.0	12.0- 14.0									
460	N120		Hastelloy A	0.12	1.5	1.0	0.03	0.03		55- 59	18- 21								Fe 18-22
461	N130		Hastelloy B	0.12	1.0	1.0			1.0	67-69	24-33								Fe-3-7
462				0.05	1.0- 2.0	0.20	0.030	0.030	45.0- 48.0										
464		TU 908		0.12	1.88	0.53			20.48 (actual analysis)										
465				0.15	0.50	1.25- 2.0	0.05	0.030	22.5- 25.0	0.50				1.5- 2.25					

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
467				0.05	1.0- 2.0	0.20	0.030	0.030			48.0- 51.0								10-15
469	Kh18N9B 18N10B	GOST 2246-54		0.06- 0.12	1.60- 2.0	0.15- 0.45	0.035	0.020	17-20	8.8- 10.8									Nb-0.75 -1.05
473				0.15					10.0- 12.0	33.5- 37.0									
475		MTU 4157-53	AISI 414	0.20- 0.30	0.80- 1.20	0.50	0.03- 0.15	0.15- 0.25	12.0- 14.0	1.5- 2.0									
478	Kh20N10G5			0.12	5.0- 7.0	1.0	0.040	0.030	18.0- 22.0	9.0- 11.0									
481	4Kh12N8G8MTB			0.34- 0.40	7.5- 9.5	0.9- 1.4	0.035	0.030	11.5- 13.5	7.0- 9.0	1.1- 1.4			1.25- 1.55					Nb-0.25 -0.45
482	Kh15N13G6			0.12	5.0- 7.0	1.0	0.040	0.030	14.0- 16.0	12.0- 14.0									
483	Kh16N14G6			0.12	5.0- 7.0		0.030	0.030	14.0- 16.0	12.0- 14.0									
484	Kh18N11G6	GOST 5632-61		0.15	0.50	1.00- 1.50	0.035	0.025	17.0- 20.0									0.70- 1.20	

Chemical Composition, percent (maximum unless given as range)																			
EN No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
495				0.10	3.5-5.0	0.40	0.025	0.020	19.0-21.0	9.0-11.0									
495	08Kh13, 08Kh13	GOST 5632-61	AISI 403	0.08	0.60	0.60	0.030	0.025	11-13										
499	Kh28N Kh28W	ChMTU 3296-55	AISI 446	0.15	0.5	1.0	0.035	0.030	27-30	1.0-1.7									N <sub>2</sub> -0.15 -0.22
500	16Kh2GN2VA			0.14-0.19	1.10-1.40	0.17-0.37	0.035	0.035	1.70-2.10	1.70-2.10		0.50-0.80							
500	16Kh2GN2VMA			0.14-0.19	1.10-1.40	0.17-0.37	0.035	0.035	1.70-2.10	1.70-2.10	0.15-0.25								
502				0.10	5.0-7.0	0.85	0.020	0.020	18.0-22.0	9.0-11.0									
503	G9N9, 50N9G9			0.45-0.55	0.8-9.0	0.17-0.37			0.2	8.0-9.0									
503	N9KhG9			0.50-0.65	7.5-9.5	0.7			3.8-4.5	8.0-10.0									
504		TU 752		0.12	1.50	0.90	0.035	0.030	16.0-18.0	11.0-14.0	2.0-2.8					2.5-3.5			

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
505	Ca18M2B	GMPTU 5050-55		0.10 2.0	1.0- 2.0	0.80	0.035	0.030	18.0- 20.0	9.0- 11.0								2.1-1.8- 2.3%
511				0.92	0.27	0.92			7.29 (actual analysis)			3.65			1.41	1.0		
515				0.9- 1.1	0.6	0.6	0.03	0.03	12- 14.5	0.5	1.4- 1.8							
519	25M2GNTA	GMPTU 4543-57		0.23- 0.29	0.80- 1.30	0.20- 0.50	0.025	0.025	1.30- 1.70	0.90- 1.40			0.6- 1.2			0.20		
530	Ka18M28M3D3	GOST 5632-51		0.12	1.0	1.0	0.030	0.020	17.5- 19.5	27.0- 29.0	2.5- 3.5					3.5- 4.5		
530	Ka18M28M3D4T	MPPTU 2677-50		0.12	1.0	1.0	0.030	0.020	17.5- 19.5	27.0- 30.0	2.5- 3.5		0.7					
531	12M2TDB			0.8- 0.12	0.80- 0.70	0.40- 0.70	0.035	0.030	2.1- 2.6	0.30	0.5- 0.7		0.1	0.2- 0.3				ND-0.5- 0.8%

Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)												
			C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu
540	K23M23M3D3		0.10	0.25-0.50	0.50-1.0	0.035	0.030	22.0-25.0	22.0-25.0	2.5-3.5					2.5-3.5
543	CaMTU 4542-54		0.12	1.5-2.0	1.4-2.0	0.030	0.020	19.0-22.0	9.0-11.0						
544	K25M12		0.20	2.0	1.0	0.035 (estimated composition)	0.030	22-26	11-13						
553	95K4GS		0.95-1.05	0.7-1.0	0.5-0.8			1.0-1.3							
556	K25M13B		0.12	1.0-2.0	0.80	0.035	0.020	23.0-26.0	12.0-14.0						
559	K25M13B		0.05	0.45	0.13			16.2 (nominal composition)	16.1					3.3	
559A	K25M13B		0.10	0.30	0.80	0.020	0.020	15.0-18.0	55.0-58.0					2.80-3.50	

EN No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
566																			
567	15Kh3MA	ChMTU 4689-54		0.15	0.40- 0.70	0.17- 0.37	0.035	0.030	2.5- 3.0	0.10	0.20- 0.30								
569	10NM			0.12	0.40- 0.70	0.15- 0.35	0.030	0.030	0.2	1.0- 1.5	0.4- 0.55								
572	3Kh19N9M1F 2Kh18N3VF	GOST 5632-61		0.28- 0.32	0.8- 1.5	0.8		0.30	18.0- 20.0	8.0- 10.0	1.0- 1.5	1.0- 1.5	0.2- 0.5						Nb-0.2- 0.5%
574	N34KhGB	TU 639		0.7- 0.8	2-3	0.5	0.04	0.03	7-9	33-35		2.4							
575	12KhMF 12Kh1MF	ChMTU 2579-54		0.08- 0.15	0.4- 0.7	0.17- 0.37	0.030	0.025	0.9- 1.2	0.25	0.25 0.35			0.15- 0.30		0.20			
576	Kh5VF, 12Kh5VF	ChMTU 2987-51		0.15	0.30	0.40- 0.60	0.025	0.025	4.0- 6.0	0.30		0.40- 0.70		0.50- 0.80		0.25			

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
573	Kh3M7	MTU 4220-53		0.15-0.20	0.25-0.50	0.40	0.030	0.030	2.5-3.0	0.25	0.50-0.70	0.50-0.80		0.05					
579	Kh3M7F	CMTU 4803-54	0.	0.16-0.22	0.25-0.50	0.40	0.030	0.030	2.5-3.0	0.25	0.35-0.50	0.30-0.50		0.70-0.85					
579B	Kh3M7B	CMTU		0.16	0.25	0.40	0.030	0.030	2.87 (actual analysis)		0.48	9.40		0.40				Nb-0.65	
580	6Kh17M16M1	GOST 5632-61		0.08	2.0	0.20-0.80	0.030	0.030	16.0-18.0	15.0-17.0	3.0-3.5		0.3-0.5						
581																			
582				0.05-0.10	0.55-0.85	0.15-0.30			0.7-1.0	1.4-1.8	0.20-0.30								
585	35KhV10A	GOST 4543-57		0.35-0.43	0.20-0.40	0.17-0.37	0.035	0.030	1.50-1.80			0.20-0.40			0.40-0.70				
589																		Nb-1.1-1.4	
590				0.44-0.52	6.0-9.0	0.8			11.0-14.0	7.0-9.5		3.3-4.2		2.1-2.5				Nb-1.0-1.4	
				0.34-0.42	7.0-10.0	0.7			11.5-14.5	5.5-6.5		2.80-3.4		1.55-1.8					
592	1Kh16M13M3 (Kh16M13M3B) (1Kh16M13M3T)	CMTU 5483-56		0.06-0.13	0.7	0.6			15-17	12-15	2.50-3.25		(0.5)					(Nb-1.25)	

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum values given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Co	Others	
599	6062AlCu5A	GOST 9232-59		0.05	0.30	0.60	0.015	0.015	21.5-23.5						4.50-5.10			
599	KhN70AlTiCu5	GOST 5632-61		0.12	0.5	0.6	0.015	0.010	16.0-19.0	bal.	4.0-6.0	2.0-3.5	1.9-2.8	0.1-0.5	1.0-1.7	0.1	Fe-5 Co-0.2 Nb-0.5	
602	KhN75AlTiCu	GOST 5632-61		0.10	0.40	0.80	0.020	0.012	19.0-22.0	bal.	1.80-2.30		0.35-0.75		0.35-0.75		Nb-0.90-1.30 Fe-8	
603	KhNKh	GOST 5950-51		1.05-1.15	0.20-0.40	0.15-0.35			0.40-0.70									
605	06Al8MgS			0.09	0.89	1.8	(actual analysis)		18.3	9.1			0.25					
606	06Al8MgF2S 06Al9MgF2S 05Kh19MgF3S2	CHMTU 3378-53		0.07	1.0-2.0	1.3-1.8	0.030	0.030	18.0-20.0	8.0-10.0				2.2-2.7				
606A				0.07	0.70	1.30-1.80	0.030	0.030	18.0-20.0	8.0-10.0				2.20-2.70				
607	KhN80TiCu			0.08	1.0	0.8	0.015	0.01	15.0-18.0	bal.			1.8-2.3		0.5-1.0		Fe-3.0 Nb-1.0-1.5	
607A				0.08	1.0	0.8	0.020	0.020	15-17	bal.			1.4-1.8		0.5-1.0		Fe-3.0 Nb-1.0-1.5	
608	Kh25Mn4S2			0.12	2.0 (estimated composition)	2.0			24-26	13-15								



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
612	KbN35, KbN32V KbN35V KbN35V 1KbN30V2T	606T 5632-61	AISI 330Ti	0.12	1.0- 2.0	0.6	0.020	0.020	14.0- 16.0	34.0- 38.0		2.8- 3.5	1.1- 1.5							
612				0.15					10-20	30-40			1.1 1.5							
612				0.10	1.0- 2.0	0.5	0.020	0.020	14.0- 16.0	34.0- 38.0		2.8- 3.5	1.2- 1.6							
613	Kb20N1065T	ChMTU		0.10	6.0- 8.0	0.60- 1.00	0.030	0.025	18.0- 22.0	8.0- 10.0			0.60- 0.90							
615	10N655T			0.40	1.0- 1.3	0.4- 0.7	0.030	0.030	0.4- 0.7	1.5- 2.0	0.20- 0.30		0.1							
617	KbN70V65Tu			0.12	0.5	0.6	0.015	0.010	13.0- 16.0	bal.	2.0- 4.0	5.0- 7.0	1.8- 2.3	0.1- 0.5	1.7- 2.3		0.02		Fe-5.0 Co-0.02	
617							(same as for EI-826)													
618	ZbS-3			0.06	0.35	0.65	0.015	0.007	19.0- 22.0	bal.			2.3- 2.7		0.55- 0.95		0.005- 0.003		Fe-1.0	

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
626	6062/Al5A	6062 5632-61		0.05	0.3	0.6		0.015	26-28	0.6						5.0-5.8			
627									30.0							5.50			
628	Al23M23M2T M23M23M2T M23M23M2T	6062 5632-61		0.10	0.80	0.80	0.030	0.020	22.0-25.0	26.0-29.0	1.5-2.5		0.70		0.50				
629	M23M23M23D3			0.10	0.6	0.8	0.035	0.030	22-25	26-29	2.5-3.5				3.0-4.0				
630		CA8TU M23M23M23D3		0.05	0.10	0.35	0.030	0.020	0.30	30.0-32.0							4.5-6.5		
631	M3LK5, N30K4D									30-32 (nominal composition)				1.5			4-6		
636	M18M4M			0.12	2.0	1.0			17-20	0.50 (estimated composition)	1.0	1.0							
639			Fastelloy B																
643				0.30	0.8	1.0	0.025	0.020	1.0	2.6		0.9	0.08		0.1				

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum values given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Fe	V	Al	Cu	N	Co	Others	
645	Kh17A, GKh17T	GOST 5632-61		0.08	0.70	0.80	0.035	0.035	16-18					500 to 0.8% max						
647	0Kh18N9S2			0.06	1.00-2.00	2.0-2.75	0.030	0.020	18.0-20.0	8.0-10.0										
649	0Kh18N9T5 Kh18N9T5B	GOST 5632-61		0.07	1.0-2.0	1.3-1.8			18.0-20.0	8.0-10.0					1.3-1.8				Nb-1.0-1.2	
650								(same as for EI-437B)												
652	KhN70Yu	GOST 5632-61	Inconel 702	0.10	0.3	0.8	0.02	0.02	26-29	bal.							2.6-3.5		Fe-1 Co-0.03 P-0.01	
654																				
657	Kh28AN (similar to EI-457)	GOST 5632-61		0.15	1.50	1.00	0.035	0.025	25.0-28.0	1.00-1.70									Fe-0.18-0.25	

EN No.	Alloy designation	Specification	Nearest Equivalent	Chemical Composition, percent (minimum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
672	23Kh2M1A			0.19-0.25	0.30-0.70	0.17-0.37				1.6-2.4	0.8-1.2		1.0-1.4		0.13-0.23				
671				0.95-1.05						3.8-4.2		1.0-1.2	17-19		2.0-2.5			7.5-8.5	
672		ChMnU 3626-53		0.06-0.13	1.0-1.7	0.30	0.030	0.020	16.0-18.0	12.5-14.5	1.8-2.3	0.80-1.20						2.8-3.2	
673				0.13	1.0	0.5				19.5	20.0	3.2	2.5					19	1B-1.2
										(Nominal composition)									
680	1Kh16N13M2B									(same as EN-405)									
681	13G2Kh	ChMnU 3626-53		0.15	1.6-1.9	0.12	0.030	0.030	1.2-1.5										
683		ChMnU 3626-53		0.10	1.6-1.9	0.12	0.030	0.030											

Chemical Composition, percent (maximum unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
660		CaMTU 4176-53		0.06	1.0	0.60	0.030	0.020	17.0-19.0	10.0-12.0									
662		MTU 4270-53		0.06-0.13	1.0-1.7	0.30	0.030	0.020	16.5-18.5	12.5-14.0	2.1-2.6								
663	380HV	MTU 4272-53		0.35-0.42	0.30-0.60	0.17-0.37	0.040	0.040	1.25-1.65	1.35-1.75		0.60-0.90							
	Kh15N35VAT----- KhN35VAT (Kh15N35V2MATER) (Kh15N35VAT2) (Kh15N35V3E)-(same as EI-612)	GOST 5632-51		0.12	1.0	0.6	0.020	0.020	12.0-16.0	32.0-36.0	2.0-3.0	2.3-3.3	1.1-1.5				0.020		Ce-0.25
662	(Kh15N35V3R) (Kh15N35VER)													2%					(Nb-1) (Nb-1.5)
	(Kh15N35VAT5) (Kh15N35VATK10)												2% 2%					5-6% 9-10%	
663	Nb8Kh	CaMTU 5019-55		0.05	0.30-0.70	0.15-0.40	0.030	0.020	0.70-1.10	48.0-49.5						0.15			Fe-bal.
664	Kh14N16B 1Kh13N16B	CaMTU 2966-51		0.07-0.12	1.0-2.0	0.60	0.035	0.025	13.0-15.0	14.0-17.0									Nb-0.9-1.3
665	1Kh13N18V2B Kh14N18V2B	CaMTU 2966-51		0.07-0.12	1.0-2.0	0.60	0.035	0.025	13.0-15.0	18.0-20.0		2.0-2.75							Nb-0.9-1.3
665R	1Kh18N18V2ER Kh14N18V2ER Kh14N18V3R	GOST 5632-61		0.07-0.12	1.0-2.0	0.60	0.035	0.025	13.0-15.0	18.0-20.0		2.0-2.75					0.005		Nb-0.9-1.3

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent. (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
600	Al10Mg2R Al12Mg3R	GOST 5632-61		0.10	1.0	1.0				10.0-12.5	18.0-21.5			2.6-3.2		0.8		0.003-0.02		
601		GOST 5632-61		0.10	1.0	1.0				10.0-12.5	18.0-21.0			2.3-2.8		0.5		0.003		
602	Al12Mg2Mn3R	GOST 5632-61		0.10	0.6	0.6				10.0-12.5	21.0-25.0	1.0-1.6		2.2-2.6		0.8		0.003-0.02		
701				0.70	1.55	0.30	0.03	0.021 (actual analysis)	2.75			9.2		0.50						
702	R36Mg10, 36Mg10			0.05	0.8-1.2	0.5				11-13	34-36			2.8-3.2		0.6-0.8				
703	Rh13VT Rh22N38VT	GOST 5632-61		0.06-0.12	0.70	0.80	0.030	0.020	20.0-23.0	35.0-39.0		2.80-3.50	0.70-1.20		0.50					
705	R9K5	GOST 9373-60		0.80-0.90	0.40	0.40	0.030	0.030	3.80-4.40	0.40		9.0-10.5		1.60-2.00			5.0-6.0			
706	R9P5	GOST 9373-60		1.4-1.5	0.40	0.40	0.035	0.035	3.80-4.40	0.40	0.30	9.0-10.0		4.4-5.0						
711	Rh14G14N3T 1Rh14N3G13T	GOST 5632-61		0.10	13-15	0.80	0.035	0.025	13-15	2.5-3.5	5.0-9.2							10-0.60-0.90		

[illegible]

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
725	1Kh13Ni8V2R Kh14Ni9V3R			0.03- 0.12	1.0- 2.0	0.6	0.020	0.025	13-15	18-20		2.0- 2.75				0.02		Nb-0.9- 1.3 Ce-0.2		
729				0.18- 0.23	17.0- 20.0	0.8	0.1	0.03	12.0- 14.0	0.5				0.5- 0.8						
732	08X20Ni4S2	GOST 5632-61		0.03	1.50	2.00- 3.00	0.035	0.025	19.0- 22.0	12.0- 15.0										
734		GOST 5632-61		0.34- 0.40	7.0- 9.0	0.3- 0.8			11.5- 13.5	4.5- 6.5	1.1- 1.4			1.25- 1.55		0.005				
735	13Kh14NiVFA	ChMTU 5319-57		0.10- 0.16	0.6	0.6	0.030	0.030	13-16	2.8- 3.4		1.6- 2.2	0.05	0.18- 0.28						
736	13Kh14Ni2VTR	C MTU 5319-57		0.10- 0.16	0.6	0.6	0.030	0.030	13-16	1.9-		1.8- 2.4				0.005				
733									(same as EI-381)											



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)														Co	O
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B		
751				0.17	0.48	0.19	0.028	0.028	12.4 (actual analysis)	0.60	1.08			0.27					
752				0.18	0.50	0.16	0.018	0.010	12.3	0.68		0.98		0.27					
753				0.17					12.0 (nominal composition)	0.65 (nominal composition)									Zr-0.6
753	4032NR	CAMTU 5635-56		0.35-0.42	0.6-0.9	0.17-0.37	0.040	0.040	0.6-0.9	0.4-0.8							0.002-0.005		
754				0.09	0.79	0.20	0.023	0.016	10.78 (actual analysis)	0.20	0.73			0.21					Nb-0.25
755	KAL111		AISI 422	0.13	0.79	0.38	0.012	0.018	10.85 (actual analysis)	0.31	0.73	2.05		0.09					Nb-0.37
756	1KAL12V2MT	GOST 5632-61		0.10-0.17	0.50-0.80	0.50	0.030	0.025	11.0-13.0		0.60-0.90	1.70-2.20		0.15-0.30					
757	1KAL12V4MT	GOST 5632-61	AISI 422	0.10-0.15	0.60-0.80	0.20-0.35	0.030	0.030	10.5-12.5		0.60-0.80	3.7-4.2		0.20-0.30					
765	KAL15W70V4YU2TR			0.11-0.9					14.6 bal. (actual analysis)	bal.	4.17-4.2	5.05-5.2	1.22-1.3		1.85-1.94		0.008		Fe-0.76
766A				0.15					10-25 (nominal composition)	60			1-3		4-6				

PI No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
702	Kh13Kh16 (Kh13Kh16R)			0.07- 0.12	1.0- 2.0	0.6	0.030	0.025	13.0- 15.0	14.0- 17.0			0.6- 1.0				(0.10)		Ce-0.020	
770	Kh13Kh18V2R Kh13Kh18V2R			0.07- 0.12	1.0- 2.0	0.6	0.030	0.025	13.0- 15.0	18.0- 20.0		2.0- 2.75	0.6- 1.0				0.002		Ce-0.020	
773	Kh16Kh13B Kh16Kh13B			0.07- 0.12	0.8- 1.7				15-17	12-14									Nb-10xC up to 1.2%	
703				0.05	0.77	0.24		(actual analysis)	8.95	2.34	1.65		0.37	0.59						
705	GOST Kh14Kh20V3T3YuR Kh14Kh25V3T3YuR	GOST 5632-61		0.08	0.60	0.60			13-15	26-29		2.8- 3.5	2.4- 3.2		0.5- 1.0		0.20			
707	Kh135V3Yu Kh15Kh35V3T3YuR (GOST Kh15Kh35V3T3YuR)	GOST 5632-61		0.08	0.60	0.60	0.020	0.012	12.0- 16.0	33.0- 37.0		2.80- 3.50	2.40- 3.20		0.5- 1.0		0.020			
790				0.94- 1.04	0.50	0.90			(nominal composition)											
793	Kh18Kh9TiYu	GOST 5257-55		0.09	2.0	0.8	0.03	0.03	17-20	8-11			1.1- 1.3		0.04- 0.06					

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
703	06Al1V			0.10	2.0	1.0	0.03	0.03 (estimated composition)	10-12				1-2	0.5					
800				0.1-0.17	0.8-1.3	0.5			10-12	0.5-1.0	0.6-0.8			0.2-0.4				Nb-0.4-0.7	
800A																			
801	25Kh11M3F																		
802	1Kh12VWF	GOST 5632-61		0.12-0.18	0.5-0.9	0.4			11.0-13.0	0.4-0.8	0.5-0.7	0.7-		0.15-0.30					
802	15Kh12VWF	МРТУ 4909-54		0.11-0.18	0.6-1.0	0.4	0.030	0.030	11.0-13.0	0.5-1.0	0.4-0.6	0.7-1.0		0.15-0.30					
803	Kh6VF			1.0-1.15	0.45	0.35			5.5-7.0			1.1-1.15		0.5-0.7					
811	1Kh21N5T Kh21N5T 1Kh21N5B	GOST 5632-61		0.09-0.14	0.80	0.80	0.035	0.025	20-22	4.8-5.8				5x0-0.02 to 0.6max				Nb-5x0 0.02 to 0.03 max	
812																			
813	1Kh25N25TR Kh25N25TR Kh25N25T	GOST 5632-61		0.07-0.12	1.00-2.00	0.80	0.035	0.020	23.0-26.0	24.0-27.0				1.10-1.60			0.010		

El. No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
823				0.85-0.95	0.35-0.90	0.70-0.90				7.00-9.00	0.30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</

El. No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
857	Kh16N173B Kh16N173B	GOST 5632-61		0.09	0.60	0.80	0.035	0.020	15.0-17.0	14.0-16.0	2.50-3.00							Nb-0.05-0.09		
858	Kh16N193B			0.12	0.8	0.8			15.0	20.0								Nb-1.30 N-0.07C		
859	(stainless)																			
860	Kh16N212			0.12	2.0	3.0	0.03	0.03	15-17 (estimated composition)	1								Nb-2		
861	Cr-Ni austenitic																			
862	Kh16N215A	ChMETU 5595-56		0.12	0.8-1.0	0.4	0.03	0.03	14-16	24-26	5-6									
863	Kh13N16S4B	GOST 5632-61		0.1	0.3	0.6			8.5-10.5	bal.	9-11.5	4-6		4.2-4.9		0.02	4-6	Fe-4.0 Ce-0.02		
864				0.10	0.50	0.80	0.015	0.015	23.5-26.5	bal.		13.0-16.0			0.50			Fe-4%		
865				0.8	1.0	0.8	0.020	0.020	14-17	bal.			1.5-1.9		1.1-1.4	0.005-0.003		Fe-3.0 Nb-1.0-1.5		

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															Others
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	
903				0.06	0.91	0.32	0.02	0.016	16.73 (actual analysis)	bal.			1.65		0.83				1.0-2.45
903	Rh17Rh469 Rh1769M	GOST 5632-61		0.12	8.0- 10.5	0.8-	0.035	0.020	16-18	3.5- 4.5									N-0.15- 0.25
903	Rh13Rh135B			0.12	2.0	3-5	0.03	0.03	12-14	13-15 (estimated composition)									Nb-1
903																			
903		GOST 5632-61		0.1	0.8	1.0	0.03	0.03	21-24	bal.	0.6- 1.2	4.5- 6.5	0.8- 1.2		2.3- 3.0				Fe-10
906				0.05- 0.10	1.8- 2.2	0.20- 0.45			18.5- 20.5	8-10				1.3- 1.8					Nb-1.0- 1.4
902	Rh19Rh10M3B			0.10	1.0- 2.0	0.6			18-20	9-11	2.0- 3.0								Nb-0.9- 1.3
903				0.30- 0.40	16.0 18.0	0.50	0.030	0.030	0.60	0.50					4.75- 5.50				

BT No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
901	Kal5W9Vn (SW-2)	GOST 5632-61		0.09	0.80	0.80	0.035	0.025	14-16	7-9.4					0.70- 1.30				
905	08K12S5W3F			0.07	0.40	0.33	0.007	0.009	24.2 (actual analysis)	4.92	0.11		0.10	0.11					N-0.20
905	Heating-resisting, high-carbon SS																		
907	" "																		
908	" "																		
909	20K11W1L			0.18- 0.25	0.25- 0.50	0.15- 0.35			1.0- 1.3	0.4	0.8- 1.2			0.7- 0.9					V/C=2.7- 5.0
913				0.10- 0.15	0.4- 0.7	0.15- 0.35	0.03	0.03	1.7- 2.2	0.3	0.4- 0.6		0.05- 0.10	0.20- 0.35					
914	08K18W10L	GOST 5632-61		0.08	1-2	0.80			17-19	9-11			0.50- 0.60						
915	R14W4	GOST 5652-60		1.2- 1.3	0.4	0.4	0.03	0.03	4.0- 4.6	0.4-	0.3	13.0- 14.5		3.5- 4.1					
916	R18F2, R18F	GOST 5652-57		0.85- 0.95					3.8- 4.4			17.5- 19.0		1.8- 2.2					
917	R18F2M	GOST 9373-60		0.85- 0.95	0.4	0.4	0.03	0.03	3.8- 4.4	0.4	0.5- 0.7	17.5- 19.0		1.8- 2.2					
918	R21F			0.85- 0.95					4.0- 4.6		0.4	22.0- 24.0		1.8- 2.2					

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Fe	V	Al	Cu	B	Co	Others
929	R9410	GOST 9373-60		0.8-0.9	0.4	0.4	0.03	0.03	3.8-4.4	0.4	0.3	9.0-10.5		1.6-2.2				9.5-10.5	
929	R9410P			0.9-1.0					3.8-4.4			9.0-10.5		2.2-2.6				9.5-10.5	
929				0.45	14.12	2.4	0.040	0.011	17.3				0.48						
929	R9417M3 (SM-3)		AM 350	0.06-0.10	0.7	0.7	0.035	0.020	16-17.5	4.5-5.5	3.0-3.5								
929	(Beryllium steel)																		
929	Vzn 36-300	GOST 5632-61		0.12	0.5	0.5			9-12	Rel.	4.4	4.5-6.5	1.4-2.0	0.2-0.8	3.6-4.5		0.02	12-16	Fe-5 Fe-0.1
931	R10K5F5, R10F5K5	GOST 5952-51		1.45-1.55	0.4	0.4	0.03	0.03	4.0-4.6	0.4	0.3	10.0-11.5		4.4-5.0				5.5-6.5	
937				0.47-0.55	0.2	0.2	0.04	0.04	0.15	0.25			0.1-0.2						



Chemical Composition, percent (maximum unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
940	K18-502	GOST 5952-51		0.8-0.9	0.4	0.4	0.03	0.03	3.8-4.4	0.4	0.3	17.5-19.0		2.0-2.5				5.0-5.5	
943	08A10-27H3D3T 08A23-20H3D3T 000623H28-29H2T	GOST 5632-61		0.05	0.80	0.80	0.035	0.020	22-25	26-29			0.4-0.7			2.5-3.5			
944																			
945	(Bio steel)																		
945	25Kh18H3V2	ChMTU 533-61		0.21-0.28	0.7	0.3-0.8	0.030	0.030	17.0-19.0	7.5-8.5		2.0-2.5							
952	15Kh12VMF	GOST 5632-61		0.11-0.18	0.6-1.0	0.40	0.030	0.030	11.0-13.0	0.5-1.0	0.4-1.6	0.7-1.0		0.15-0.30					
953	KH4TF			0.09	0.79	0.024	0.016	13.75 (actual analysis)	11.0				1.05		1.05				
954	KH25N5VMF			0.09	0.44	0.63	0.028	0.024	24.3	5.35	0.10		0.10	0.11				N-0.044	
956	4Kh4VFM			0.35-0.45	0.20-0.40	0.6-1.0	0.03	0.03	4.0-5.0		0.40-0.60	3.5-4.5		0.30-0.60					

El No.	Alloy designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	V	Ti	V	Al	Cu	B	Co	Others
970	4200WES	CHKTU 91-53		0.35-0.45	0.35	0.8-1.2	0.03	0.03	4.5-5.5	0.3		1.6-2.4		0.03					
972	4200WEM	CHKTU 91-53		0.35-0.45	0.35	0.5			2-3	0.3	0.4-0.6	4.5-5.5		0.8-1.2					
981	10001202VMT 10001204VMT	GOST 5632-61		0.10-0.16	0.60	0.60	0.030	0.025	10.5-12.0	1.5-1.8	0.35-0.60	1.60-2.00		0.18-0.30					
982	10001202VMT 10001204VMT			0.09-0.13	0.6	0.6	0.03	0.025	10.5-12.0	1.4-1.8	0.35-0.50	1.50-2.0		0.19-0.30		0.004			
982A	15001204VMTA																		
971	9700G5VF			0.95-1.02	0.7-1.0	0.7-1.0			0.7-1.0			0.8-1.0							
973	1001707Yu	GOST 5632-61		0.09	0.80	0.80	0.035	0.025	16-18	6.50-7.50							0.80-1.30		

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STEEL "TIT" SERIES AND ALLOYS

Gr. No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V
17	1M12G14V2ER	GOST 5632-61		0.07 0.12	1.0- 2.0	0.6	0.03	0.03	15.0- 18.0	13.0- 15.0		2.0- 2.75		
19	1M21A13													
23	1M22H5A99			0.05- 0.09	8.0- 10.0	0.8	0.035	0.030	21.0- 23.0	4.5- 5.5				
24														
26	1M18M2A65			0.01	4-6	0.8	0.035	0.030	17-20	1.5- 2.5				
27														
33														
38	1M12M22T3MR	GOST 5632-61		0.10	0.60	0.60	0.020	0.010	10.0- 12.5	21.0- 25.0	1.00- 1.60		2.60- 3.20	0.80
39														

IP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																	
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others		
44	29KhMnR			0.20-0.30	0.5-0.8					1.0-1.5	0.5		0.8-1.1				0.7-1.0		0.005		Nb-0.1-0.2
45	1Kh14M18V2E2																				
46	2Kh14M16V2																				
48		ChMTU 358-60		0.40-0.50	0.9-1.20	1.0-1.3				22.0-24.0	4.5-5.5	2.5-3.0									
51				0.05	0.8-1.2	0.5				11.5-13.5	34.5-36.5	4.5-6.0		2.8-3.2		0.9-1.2					
52				0.05	0.8-1.2	0.5				11.5-13.5	34.5-36.5	7.5-8.5		2.8-3.2		0.9-1.2					
53	OKh21N5T	GOST 5632-61		0.08	0.80	0.80	0.035	0.025	20-22	4.8-5.8			0.3-0.6								
54	OKh21N6M2T	GOST 5632-61		0.08	0.80	0.80	0.035	0.025	20-22	5.5-6.5	1.8-2.5		0.2-0.5								
55	OKh17N5G9AB	GOST 5632-61		0.08	13.5-15.5	0.6				16-18	4.5-5.5										Nb-0.8
56	1OKh16N4B4																				

EP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
65	20Al3NiV3F 23Kd13HUMFA	ChMTU 456-61		0.2	2.0	1.0	0.03	0.03 (estimated composition)	12-14	1-2	1	1		0.5				
75	Kd25M12T			0.12	2.0	1.0	0.3	0.3	24-26	11-13			0.5					
81	4Kd4V3F			0.35- 0.45	0.8- 1.2	0.7- 1.0	0.04	3.6- 4.1	0.3		2.5- 3.0		0.2- 0.4					
87	06Kd25M12TU Kd25M12TU	ChMTU 163-59		0.07	0.8	0.6- 1.0	0.03	0.03	24-26	11-13			0.6- 0.9		0.4- 0.6			
88	08Kd15N23G7V72	ChMTU		0.10	6-8	0.35	0.03	0.03	14-16	22-25	2-3	7-8						
89	05Kd20M11M3TB Kd19M10G3TB	ChMTU 170-59	AISI 313	0.07	0.8	0.5- 1.0	0.03	0.03	19-21	10-11	2.5- 3.5		0.06- 0.09				No-0.5- 0.9	
105		GOST 5632-61		0.1	0.6	0.6			12.0- 15.0	33.0- 37.0	3.0- 3.8		2.0- 2.6		2.4- 3.2		0.015	0.0-0.1



MP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given otherwise)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	B	Co	
177																0.36		
178		CA84U 320-60		0.11 0.17	0.65- 0.95	0.10- 0.80				1.3- 1.7	1.6- 2.0	0.20- 0.35	0.60- 1.0					
182	2024ALUMINUM			0.17- 0.24	0.50	0.35				0.9- 1.4	0.5			0.05- 0.12	0.7- 1.1		0-0.005	
199	(MIL-AI-2000 alloy)																	
200	113												6-7					
202	(same as EI-445R)																	
207			Permendur 2-V	0.03	0.20	0.10	0.015	0.010	0.20	(approximate composition)					1.8		50	



IP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
212	KAl1414N	GM TU 444-61		0.12	13.0-15.0	0.80	0.035	0.020	13.0-15.0	1.0-1.5									
213	KAl17AG14	GGST 5632-61		0.15	13.5-15.5	0.80	0.035	0.020	16.0-18.0	0.60								N-0.30-0.40	
214	102113T CG2113T			0.06	1.6	0.45			21.0 (actual analysis)	3.4			0.26						
225	KAl1515D2T																		
239	KAl17021115T			0.1	20.0-22.0	0.8	0.045	0.03	16.0-18.0	14.0-16.0			0.35-0.70						
234	06KAl141419081513B	GM TU 392-61																	
235	06KAl151513031713T	GM TU 400-61		0.08	7.0-8.5	0.35			14-16	34-36	3.0-4.0	7.5-8.5	1.3-1.8						
236	06KAl141419031613T	GM TU 401-61																	

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MP No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
311	W3-6																			
317	Co EP-245	CA111/Tenitechemet 639-62																	Ce-0.8	
312	K213										3	6		2						
351	Kh15H65H15																			
375	Kh15H55M16V		HastelloyC	0.03	0.2	1.0	0.02	0.02	14.5- 16.5	Bal.	15-17	3-4.5		0.35			2.5		Fe-7	
376	OKh16H15H3B																			

MP No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum values given as range)													Others		
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	A <sup>1</sup>	Cu		B	
300	08AL15N12M1 R119N15M1	CA4TU 846-63																	
301	08AL18N11M1 R112N12M1	CA4TU 847-63																	
360	08AL15N30G5V3M1	CA4TU 663-62																	
362	R125N12M1																		
390	R117G9AN5MA																	0.4- 0.6	
400																			
435																			

EP No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
489		Chem/ Titanium 850-63																	
489	SA-04N34	Chem/ Titanium 952-63																	
489	IN15N25W5Ti2R																		
489	N70N27		Hastelloy B	0.03	0.5	1.0					Bal	25-29							Fe-1.5
489	N70N27R			0.05	0.5	0.5					Bal	25-29			1.4- 1.7				Fe-4.0
531	HA18N1202R1																		

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STEEL "122" SERIES

Item No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Fe	V
1	1Kh13	GOST 5632-61		0.09-0.15	0.60	0.60	0.030	0.025	12-14					
2	2Kh13	GOST 5632-61		0.16-0.24	0.60	0.60	0.030	0.025	12-14					
3	3Kh13	GOST 5632-61		0.25-0.34	0.60	0.60	0.035	0.030	12-14	0.6				
4	4Kh13	GOST 5632-61		0.35-0.45	0.60	0.60	0.035	0.030	12-14	0.6				
17	Kh17	GOST 5632-61	AISI 430	0.12	0.70	0.80	0.035	0.025	16-18	0.6				
27	Kh20									(Same as Kh13)				